APR 2 - 1946

MACHINE DESIGN

INDEX TO VOLUME 17, JANUARY TO DECEMBER, 1945

A

Acceleration analysis, a shortening of (Viewpoints),* March p.174
Accelerator, electronic, generates radiations (Scanning),* Dec. p. 108
Actuator design facilitated (Application),* May p.140
Actuators:
linear. lightweight (Lear Inc.),* May p. 154
overload protection in (Applications),* June p.144
rotary, low-speed (Lear Inc.),* July p. 157
Adhesives:
bonding, nonthermoplastic (B. F. Goodrich),* May p. 158
high-strength, evaluating (Abstracts),* July p. 174
plastic, synthetic (Cordo Chemical),* Oct. p.178
synthetic rubber (B F. Goodrich),* March p.182
Air conditioner (American Coils), illustrated, Feb. p. 169
Air conditioning, possibilities of heat pumps in,* March p.136
Alloys:
hard-facing, Eatonite (Eaton Mfg.),* Oct. p. 176
heat-resistant, Callinite (Callite Tungsten),* Oct. p. 178
high-temperature, stress data methods,* Jan. p. 158
precipitation-hardening (W. M. Chace),* Jan. p. 180
Altimeters, radar, designed,* Sept. p. 100
Aluminum:
chemical treating process for (Enthone),* Dec. p. 170
plating process, on Alumon (Enthone Co.),* June p. 164
rectifiers of (Radio Receptor),* Dec. p. 165
silver plating of, Preplate (Colonial Alloys),* May p. 160
structures of, offered (Lindsay & Lindsay),* Feb. p. 192
Aluminum-base casting alloys (Work Sheet), July p. 149
Aluminum-bronzes, ASTM Nos. (Work Sheet), May p. 145
Analyzers:
chemical (Scanning), Nov. p. 108
electrical, complex problems solved by, Part I, Dec. p. 137
mechanical transient (Scanning),* Oct. p.110
Anticipator improves temperature control, June p.116
Assemblies, prefabricated light (Lindsay & Lindsay),* May p.158
Atomic bomb, principles of, Sept. p.108
Autotransformers, small, light (General Electric),* Feb. p. 192
Authors:
Becker, Robert E.—"Designing the Drive for the M-3" March p.123
Black, Archibald—"What's New in Nonferrous Metals?" Oct. p. 129
Blizzard, J. R.—"Industrial Glas . . . for Special Design Problems," Oct. p.137
Bolt, J. A.—"Bellows Assembly Controls Fuel Mixture," June p. 128
Bolz, Roger W.—
"Flexible Power Shafts—Key to Drive Problems," May p. 115
"Gaskets in Design," March p. 151
"Improving Design with Tubular Sections, " June p. 111
"Production Processes . . . Their Influence on Design," Part I—"Broaching," July p. 109; Part II—Spinning," Aug. p. 113; Part III—"Automatic Screw Machining," Sept. p. 135; Part IV—"Die Forging," Oct. p.147; Part V—"Turret Lathe Machining," Nov. p.117; Part VI—"Stamping," Dec. p.131
"Statistical Control—the Yardstick of Performance," July p. 135
Brecht, W. A., Charles Kerr Jr., and J. S. Newton—"Steam Turbines Drive New Locomotives," April p.141
Burnett, Earle S.—"Water-Brake Simplifies Engine Control," April p. 170
Bush, George F.—"Trimetric Drawing—Its Theory and Technique," Feb. p. 147
Calvert, W. S. and H. D. Jackes—"How High-Speed Photography Aids in Redesign," Feb. p. 133
Carmichael, Colin—
"Charts Facilitate Shaft Design," (Data Sheet), Sept. p.149
"Forecasting Aircraft Propulsion," April p.103
"Primary Factors in Choosing Aircraft Engine Materials," Oct. p.111
Carnahan, O. A.—"Analyzing the Strength of Curved Beams," Part I—"Basic Equations," Feb. p. 153; Part II—"Application of Equations," March p. 147
Charlton, Edward J.—"Trends in Design of Weldments," Jan. p. 135
Ciricillo, S. F. and Melvin Nord—"Nomograph Aids Solutions of Vibration Problems," (Data Sheet), Nov. p.155
Cook, H. C.—"Improving Design of Paper Cutters," July p. 127
Criner, H. E. and G. D. McCann—"Solving Complex Problems by Electrical Analogy," Part I, Dec. p. 137
Cunningham, J. F. and R. A. Riester—"Materials Problems in Gas Turbine Design," Oct. p. 119
Cushman, M. E.—"How Planetary Reducer Aids Compact Design," April p.135
Delmonte, John—"Utilizing Plastics at Temperature Extremes," Oct. p.115
Dodge, Louis—"Basic Principles of Centerless Grinding," Feb. p.157
DuBois, J. H.—"Molded Plastics—General Properties and Uses," Feb. p.171
Faustman, J. D.—"How Odograph Plots Maps Automatically," July p.101
Fisher, S. O. and E. E. George—"Precision Casting—Its Place in Design," Jan. p.123
Freberg, C. R. and E. N. Kember—"Tables and Charts Aid in Beam Vibration Problems," Jan. p.159
Fry, Macon—"Designing Computing Mechanisms," Part I—"Basic Elements," Aug. p.103; Part II—"Multiplying and Dividing," Sept. p.113; Part III—"Cam Mechanisms," Oct. p.123; Part IV—"Integration," Nov. p.141; Part V—"Differential Equations and Differentiation," Dec. p.123
Gatcombe, E. K.—"Load Capacity of Gear Tooth Oil Film," July p.126
Gates, Robert M.—"Broadening the Vision of the Engineer," Jan. p.101
George, E. E. and S. O. Fisher—"Precision Casting—Its Place in Design," Jan. p.123
Gillett, H. W.—"Which Steel Shall I Use?" Oct. p.101
Green, L. B.—"How Tangent Bender Tucks Flange Metal," Dec. p.101
Greve, John W.—
"Applying Electric Heaters to Machines," March p.137
"Selecting Timers for Automatic Control" Part I—Sept. p.127; Part II—"Program Timers," Nov. p.137
Hagen, Clarence—"Picking Cotton with Barged Spindles," June p.139
Hokanson, H. T. and T. S. Lisberger—"How the B-29 Concentrates Its Firing Power," Jan. p.113
Holliday, T. B.—"Which Auxiliary Power—Electric or Hydraulic?" June p.101
Jackes, H. D. and W. S. Calvert—"How High-Speed Photography Aids in Redesign," Feb. p.133
Jackson, Paul S.—"Balanced Linkage Obviates Thrust on Frame," July p.117
Johnson, B. D.—"Develops Power Stroke with Boosters," May p.134
Kelling, L. U. C.—"Electronics Insure Accurate Loop Control," April p.143
Kember, E. N. and C. R. Freberg—"Tables and Charts Aid in Beam Vibration Problems," Jan. p.159
Kerr Jr., Charles, J. S. Newton and W. A. Brecht—"Steam Turbines Drive New Locomotives," April p.141
Klenze, R. O.—"Projection Welding for Short Runs," Nov. p.107
Knight, William—"Force and Shrink Fits," (Data Sheet). June p.145
Langer, B. F.—"How To Measure Stresses in Machines." June p.123
Laser, William F.—"Where Deflection by Pressure Is Required!" April p.131
Lipson, C. and S. Oldberg—"How Stress Measurements Aid Crankshaft Design," Nov. p.127
Lisberger, T. S. and H. T. Hokanson—"How the B-29 Concentrates Its Firing Power," Jan. p.113
Lotz, Richard K.—
"Redesigning? Consider Materials Changes," Dec. p.127
"Refining the Design of a Thread Roller," May p.99
"Special-Shape Bar—What It Offers the Designer," Sept. p.141
Manjoine, M. J.—"Anticipator Improves Temperature Control," June p.166
Marin, Joseph—"Applying Fatigue Test Data in Design." Jan. p.143
Mather, Roger F.—"Selecting Materials for the Jeep," Part I—"General Considerations," Oct. p.141; Part II—"Specific Applications," Nov. p.111
Maxon, S. E.—"How To Effect Economy with Die Castings." Dec. p.143
Maurer, Spencer B.—"Single-Line Air Cylinder Control," April p.134
McCann, G. D. and H. E. Griner—"Solving Complex Problems by Electrical Analogy," Part I—Dec. p.137
McWhorter, J. F. and Curt Saurer—"Molded Rubber Parts—Factors in Their Design," July p.121
Mekelburg, E. F.—"Torque-Limit Control Insures Maximum Performance," June p.129
Mikina, S. J.—
"Electric Control Provides Accurate Response," Sept. p.131

*Denotes short articles of less than one page.

"Worm-Drive 'Jitters' Can Be Avoided," March p.131
Miner Jr., J. D.—"Will Aircraft Switch to 400-Cycle Auxiliaries?" April p.125
Miner, Milton A.—"How Cumulative Damage Affects Fatigue Life," Dec. p.111
Morton, H. Earl, and Oren G. Rutemiller—"Contour Control Minimizes Hunting and Velocity Errors," Sept. p.103
Newton, J. S., Charles Kerr Jr., and W. A. Brecht—"Steam Turbines Drive New Locomotive," April p.141
Nord, Melvin and S. F. Ciricillo—"Nomograph Aids Solution of Vibration Problems," (Data Sheet), Nov. p.155
O'Brien, L. J.—"Bevel Gears as Applied in Lightweight Designs," Jan. p.147
Oldberg, S. and C. Lipson—"How Stress Measurements Aid Crankshaft Design," Nov. p.127
Olson, Fred L.—"Miniature Mortors Pack a Wallop!" May p.107
Perrine, R. O.—"Basic Controls for Sequence Operations," April p.109
Riester, R. A. and J. F. Cunningham—"Materials Problems in Gas Turbine Design," Oct. p.119
Ristow, Arnold—"Precision Casting Obviates Machining," March p.150
Rogers, R. H.—"Servomechanisms—How They Work," April p.119
Rougemont, R. L.—"Hydraulic Transmission Facilitates Feed Control," April p.115
Ruhl, Fremont F.—"Carbon-Graphite in Design," Oct. p.153
Rutemiller, Oren G. and H. Earl Morton—"Contour Control Minimizes Hunting and Velocity Errors," Sept. p.103
Sardeson, Robert—"Transfer Mechanism Employs Differential Drive," Dec. p.120
Saurer, Curt and J. F. McWhorter—"Molded Rubber Parts—Factors in Their Design," July p.121
Sawyer, B. Marion—"Special-Purpose Motors Meet Unique Requirements," Sept. p.121
Scanlan, Robert H.—"Improved Methods for Calculating Torsional Vibration," Part I—"Fundamental Mode," (Data Sheet), April p. 159; Part II—"Higher Modes," May p.141
Schwarz-Kast, Ernst L.—"Selecting Drives for Speed Control," Part I—"Mechanical Drives," April p.147; Part II—"Hydraulic," May p. 121; Part III—"Electrical," June p.117
Senger, W. I.—"Specifying Dynamic Balance," Part III—"Methods of Correction," Jan. p.127; Part IV—"Balancing Equipment," Feb. p.163
Smith, Stephen—"Simultaneous Hardening and Tempering," March p.157
Steimen, Lawrence E.—"When Few Parts Need Balancing," May p.119
Stellwagen, Frank W.—"Dependability Achieved with Heaters," April p.117
Stitt, J. R.—"Stress Relief of Weldments for Machining Stability," May p.113
Sweetser, C. W.—"Simplicity Features Intermittent Manual Drive," April p.116
Taylor, George J.—"Improved Lighting—Better Work," Feb. p.142
Taylor, Wilbur A.—"Factors in Design of Landing Gears," May p.131
Taylor, William T.—"Charts Aid in Specifying Gear-Pin Sizes." Part I (Data Sheet), Dec. p.151
Tichvinsky, L. M.—"Causes of Failure in Heavy-Duty Bearings," July p.115
Vande Bogart, L. G.—"Selecting Materials for Corrosion Resistance," (Data Sheet), March p.165
Vennerholm, G.—"Improved Processes Widen Scope of Ferrous Castings," June p.135
Wahl, A. M.—
"Effect of Vibration on Brackets, Fastenings," March p.141
"Utilizing the Effects of Cold Setting in Springs," Jan. p.107
"Working Stresses for Helical Springs," July p.129
Wedberg, F. A.—"Specifying Rational Tolerances for Interchangeability, Low Cost," Jan. p.117
Wilson, Charles D.—"Predicting Power Losses in Journal Bearings," May p.125
Woodling, George V.—
"Group Invention Must Be Upheld!" Feb. p.148
"How To Protect Machine Improvements," Nov. p.133
Auxiliary power system, 400-cycle, for aircraft, April p.125
Aircraft:
airliner, design of,* Nov. p.45
America's Armada, illustrated, April p.152
attack bombers have new engine mounts,* Jan. p.106
B-29, fire power control on, Jan. p.113
B-29, eight million hours of engineering in,* Jan. p.158
cowl mountings, insulated (Bushings Inc.),* July p.160
cowl mountings, synthetic (Bushings Inc.),* Nov. p.176
de-icing wings of Packet, cargo plane,* Sept. p.100
enclosures, dust-tight for control (General Electric),* Jan. p.184
engine, materials for, Oct. p.111
engine parts, factors affecting chafing of (Abstracts),* May p.166
engine propulsion, forecasting of, April p.103
400-cycle auxiliaries, April p.125
improving airline schedules (Abstracts),* June p.155
landing gears, factors in design of, May p.131
landing gear on C-46, specifying tolerances, Jan. p.117
moisture in, combatting (Abstracts),* July p. 174
parts of, protected by synthetic rubber (Applications),* June p. 144
pilotless, radio-controlled (Scanning),* Oct. p.110
power plants for engine control (Scanning),* July p.108
propeller blade fairing of rubber,* Feb. p.170
pusher type pursuit plane XP-56,* July p.134
rheostats, power (Ohmite Mfg.),* Jan. p.178
Shooting Star (Lockheed fighter), Sept. p.146
Superfortress, injection pump in (Scanning),* Sept. p.109
tires, large, use helium,* Sept. p.100
wind tunnel, variable-density (Scanning),* July p. 107
Airplane, military, intermittent manual drive in (Symposium), April p.11

*Denotes short articles of less than one page.

B

Balance, dynamic, specifying of, Jan. p.127
Balancing few parts, May p.119
Balancing linkage, obviates thrust on frame, July p.117
Bars, cored and solid in Oilite (Amplex),* March p.180
Bars, special-shaped, applications of, Sept. p.141
Battery receptacle, 3-contact (Cannon Electric),* Oct. p.176
Beams:
curved, analyzing of, Part I, Feb. p.153; Part II, March p.147
vibration natural frequencies (Data Sheet), Jan. p.159
Bearings:
assemblies, staked, for replacement,* April p.157
ball, positive sealing (Fafnir),* April p. 176
heavy-duty, causes of failure in, July p.115
jewels, reduce friction and wear, Oct. p.145
journal, power losses in (Viewpoints),* Sept. p.158
journal, predicting power losses in, May p.125
journal, cemented-carbide, in grinders (Scanning), Nov. p.107
journal finish is critical (Viewpoints),* April p.167
pillow block for, available (Dodge),* March p. 178
powder-metal, engine (Moraine Products),* Nov. p.172
silver, applied in (Abstracts),* Nov. p.165
spherical, rod end (Heim Co.),* Nov. p. 176
surface finish aids life of (Viewpoints), Jan. p.168
Bellows control, selecting of, April p.131
Bellows, fuel mixture controlled by, June p.128
Bender, tucks flange metal, Dec. p.101
Bimetal dial thermometers (Marshalltown),* Nov. p.176
Blade, propeller, fairing of rubber on,* Feb. p.170
Blades, blunt-edge, for steam turbines,* Feb. p.139
Blind fastener, Rivnut (B. F. Goodrich),* Jan. p.184
Blind studs, securing of,* Feb. p.170
Blocks, brakes, (Raybestos-Manhattan),* Dec. p.165
Blocks, terminal, plastic (Paul Henry),* June p.164
Blower, lightweight (L. R. Mfg.),* April p.182
Blowers, centrifugal, miniature (F. A. Smith),* May p.158
Blowers, high-capacity (Buffalo Turbine),* Oct. p.176
Board, 3-way, artists' (Engineering Mfg.),* March p.186
Board for electrical insulating (Rogers Corp.),* Sept. p.162
Bonding of Kovar alloy to glass (Applications),* July p.144
Boom hoist mechanism discussed (Patent),* Feb. p. 179
Boosters, hydraulic, utilized in press, May p.134
Box cover fastener (Tinnerman),* Dec. p.168
Brackets, fastenings, effect of vibration on, March p.141
Brackets, generator, designing against vibration (Viewpoints),* July p.15
Brakes:
block, new type (Raybestos-Manhattan),* Dec. p.165
hydraulic system, master cylinder in (Patent),* Feb. p.180
reversible propeller, on land-planes,* Nov. p.98
water-, simplifies engine control (Symposium), April p.170
Brazing, furnace:
assemblies for cam followers (Scanning), Sept. p.111
simplifies design (Applications),* June p.144
Breakers (*see Circuit Breakers*)
Broaching, its influence on design, July p.109
Bronzes:
aluminum, ASTM Nos. (Work Sheet), May p.145
continuous cast (Ampco Metal),* June p.160
silicon, ASTM Nos. (Work Sheet), Jan. p.163
Buna N material for seals (Los Angeles Standard Rubber),* May p.160
Bushings, ball, revolutionary (Thriftmaster),* Sept. p.168

C

Cable, sealed, rubber (Micro Switch),* Nov. p.168
Cabs for overhead cranes, design of (Scanning),* June p.108
Calculations on transient analyzer (Scanning),* Oct. p.110
Callinite, heat-resistant alloy (Callite Tungsten),* Oct. p.178
Cameras, aerial, heaters in (Symposium), April p.117
Cams:
adjusted during operation by coupling (Patents),* Sept. p.170
computing, Oct. p.123
followers of furnace brazed assemblies (Scanning),* Sept. p.111
in profile turning lathes (Scanning),* July p.108
roller, adjustable (Patents),* May p.150
Capacitors, paper dielectric (General Electric),* July p.164
Carbon cast steels (Work Sheet), Sept. p.153
Carbon-graphite, parts of, Oct. p.153
Carbon pile rheostats (Stackpole),* Jan. p.180
Cast steels, carbon (Work Sheet), Sept. p. 158

Casting:
precision, obviates machining, March p. 150
precision, utilizing in design, Jan. p.123
process improved, widening scope of castings, June p.145

Castings:
aluminum base alloy (Work Sheet), July p. 149
bronze, available (Ampco Metal),* June p.160
ferrous, scope widened by improved processes, June p.135

Cement loader, torque-limit control on, Jnue p. 129
Cemented-carbide bearings in grinders (Scanning), Nov. p.107
Centerless grinding of screw threads on grinder,* April p.158
Chafing, factors affecting (Abstracts),* May p.166
Chafing in aircraft engine parts, reducing causes of,* Jan. p.112
Chain conveyor lubricant (Turco Products),* Nov. p.176
Chain, roller, application in shaper, press and marine drive, April p.118
Chain, vibration of, dampened (Patents),* June p.156
Charger, pneumatic, clears jammed guns,* Jan. p.104
Checker, internal gear (National Broach), Jan. p.157
Chopper, meat (Toledo Scale), illustrated,* Dec. p.149
Chromium and molybdenum cast steels (Work Sheet), Dec. p.155

Circuit breakers:
multiple coil overload (G-M Laboratory),* Jan. p.178
push-pull (Square D),* Jan. p.176
small, light (Littelfuse Inc.),* Jan. p.186
two-pole, small lightweight (Heinemann),* March p. 180

Clamps, hose, stainless (Aircraft Standard),* Feb. p.184
Clamp, hose (Punch-Lock Co.),* Jan. p.184
Clarifier, oil, T-type (Honan-Crane),* Nov. p.172
Cloth, processed cotton, for diaphragms (Irvington),* Sept. p.164

Clutches:
air-actuated, friction (Twin Disc),* April p.178
heavy-duty slip (Hilliard),* April p.176
overload-release (Hilliard),* May p.154
overrunning (Gear Grinding Machine),* Sept. p.164

Coatings:
for copper (Enthone),* Jan. p.184
rust preventive (Witco Chemical),* Sept. p.168
synthetic latex, for metal parts,* Feb. p.130

Cold setting in springs, utilizing effects of, Jan. p.107
Collet utilizes synthetic rubber (Scanning),* Dec. p.107
Compars are wear resistant,* March p.164
Compressor charges oxygen cylinders (Scanning),* May p.106

Computing mechanisms:
basic elements, Aug. p.103
cam mechanisms, Oct. p.123
differential equations and differentiation, Dec. p.123
integration, Nov. p.141
multiplying and dividing, Sept. p.113

Concrete mixer (T. L. Smith), illustrated, Dec. p.148
Conditioner, air, illustrated (American Coils Co.), Feb. p.169
Connector strips, solderless (Aircraft-Marine),* July p.162; Sept. p.161
Connectors, multiple bulkhead (Aircraft-Marine),* Dec. p.170
Contactor, convertible, Type Q (Square D),* Sept. p.160
Contactor, solenoid, d-c (R-B-M Mfg.),* Sept. p.164
Contour control minimizes hunting and velocity errors, Sept. p.103
Controller, potentiometer (Bristol Co.),* Oct. p.174
Controls, dual-fuel, on diesels (Scanning),* May p.105
Controls, electrical, in tank turrets, Sept. p.131
Controls, engine, for aircraft (Scanning),* July p.108
Controls, feed, facilitated by hydraulics, April p.115
Controls for sequence operations, April p.109
Controls, liquid, electronic (Photoswitch),* July p.162
Controls, liquid-level (Manning, Maxwell & Moore),* Feb. p.190
Controls, mechanical, remote (M. L. Bayard),* May p.156
Controls, precision remote (American Type Founders),* Mareh p.180
Controls, speed, selecting drives for, Part I—variable speed drives, April p.147; Part II—hydraulic, May p.121; Part III—electrical, June p.117
Controls, statistical, improving design by, July p.135
Controls, temperature, pressure (Paul Henry),* Sept. p.166
Conveyor, chain, lubricant for (Turco Products),* Nov. p.176
Copper, process for coating of (Enthone),* Jan. p.184
Cord, retractive extension (Kellog Switchboard),* Dec. p.170
Cotton cloth, processed (Irvington),* Sept. p.164
Cotton picker, picks with barbed spindles, June p.139
Counters, electronic, cycle (Potter Instrument),* April p.178

Couplings:
adjust cam during operations (Patents),* Sept. p.170
overload-release (Hilliard),* May p.154
rubber, for aviation (B. F. Goodrich),* Feb. p.188

Cowl mountings, insulated (Bushings Inc.),* July p.160
Crane, jib, stepped shaft serves as plunger,* Feb. p.140
Cranes, design of cabs for (Scanning),* June p.108
Crankshaft, how stress measurements aid design of, Nov. p.127
Creep data methods for high temperature alloys,* Jan. p.158
Curved beams, analysis of, Part I—basic equations, Feb. p.153; Part II—application of equations, March p.147
Cutouts, reverse-current (Eclipse-Pioneer),* Jan. p.182
Cutters, paper, improving design of, July p.127

Cylinders:
air and hydraulic (Miller Motor),* Dec. p.168
air, double-acting (Gerotor May),* July p.160
hydraulic, with safety lock (Patents),* July p.170
hydraulics (Logansport),* Dec. p.164
master, in hydraulic brake system (Patents),* Feb. p.180
oxygen, charged by compressor (Scanning),* May p.106

D

Damage, cumulative, affects fatigue life, Dec. p.111

Data sheets:
beam vibration natural frequencies, Jan. p.159
force and shrink fits, June p.145
gear-pin sizes, charts aid in specifying, Part I, Dec. p.151
heat transfer rate, effect of material on, Oct. p.163
materials and parts for hydraulic systems, July p.145
materials, selecting, for corrosion, March p.165
plastics, molded, properties and uses, Feb. p.171
shaft design facilitated by charts, Sept. p.149
torsional vibration calculations, Part I—fundamental mode, April p.159; Part II—higher modes, May p.141
vibration problems, nomograph aids in, Nov. p.155

Decals, two-way stretch (Meyercord Co.),* Nov. p.172
Decelerometer controls skidding wheels (Patent),* Jan. p.172
Designers and standardization (Abstracts), Dec. p.162
Developing machine, transfer mechanism with differential,* Dec. p.120
Dial thermometers, bimetal (Marshalltown),* Nov. p.176
Diaphragms, flexible, in thrust measuring unit (Scanning), Nov. p.107
Diathermy machine, short wave, utilizes timers, Sept. p.127
Dictating machine, electronic (Dictaphone), Nov. p.152
Die castings, to effect economy, Dec. p.143
Die forging process, influence on design, Oct. p.147
Dielectric heating, where it may be applied,* March p.146

Diesel engines:
dual-fuel control in (Scanning),* May p.105
marine, 4-stroke cycle type (Joshua Hendy), Oct. p.158
oil pan on (Applications),* Dec. p.161
sealing of, against high pressure (Abstracts),* Jan. p.196

Differential drive has transfer mechanism, Dec. p.120
Differential equations and differentiation in computing mechanisms, Dec. p.123
Differential is self-locking (Patents),* Dec. p.176
Differential variable speed drive (Ohio Gear),* Jan. p.176
Disks of Compar (Applications),* March p.164
Drawing, trimetric, its theory and technique, Feb. p.147
Dryer, table-type photo-print (Peck & Harvey),* June p.166
Ductility, how much is necessary? (Abstracts),* July p.174

Dynamic balancing, specifying of:
balancing equipment, Feb. p.163
balancing few parts, May p.119
methods of correction, Jan. p.127

E

Eatonite, hard-facing alloy (Eaton Mfg.),* Oct. p.176
Electric auxiliaries or hydraulics, comparing of, June p.101
Electrical analogy, solving complex problems by, Part I, Dec. p.137
Electrical drives, selecting of, June p.117
Electrode, chrome-moly (Arcos Corp.),* July p.157

Electrodes:
a-c arc welding (Applications),* Sept. p.148
for high-tensile steels (General Electric),* Sept. p.168
shielded arc (Lincoln Electric),* Oct. p.180
three-purpose (Air Reduction),* Sept. p.166

Electronics:
accelerator generates radiation (Scanning),* Dec. p.108
control, liquid (Photoswitch),* July p.162
cycle counter (Potter Instrument),* April p.178
defroster for frozen foods (Topics),* June p.198
dictating machine (Dictaphone), Nov. p.152
heater, 50-KW (General Electric), March p.161
induction heater (Allis-Chalmers), Sept. p.147
insures accurate loop control, April p.143
in textile machines (Abstracts),* Feb. p.194
timer, for light in X-rays, Jan. p.103
timer, sequence, for flash exposures (Scanning),* June p.110
vulcanization of rubber by, March p.120

Electroplating (*see Plating*)
Enamel, white or pastel cover-coat, without ground coat,* Jan. p.158
Enamel-clad alloy steel (Inland Steel),* Feb. p.186
Enclosures, dust-tight, for aircraft (General Electric),* Jan. p.184
Engineering, creative, in the U. S. (Abstracts),* Nov. p.164
Engine hour meter (John W. Hobbs),* March p.184

Engineering department:
board, 3-way (Engineering Mfg. Co.),* March p.186
dryer, table-type (Peck & Harvey),* June p.166
electro-copyist machine (Hunter Electro-Copyist),* Jan. p.186
guide, slot lettering (Dolgorukov),* p.166
kilovoltmeter, portable (Shallcross Mfg.),* Dec. p.172
lamp, fluorescent (General Electric),* Dec. p.172
measuring, inspection instrument, (Ray Control),* Dec. p.172

*Denotes short articles of less than one page.

paper, photographic (Peerless Photo),* March p.186
pencil, heavy pressure (Reliance Pencil),* Oct. p.180
pencils, multiple, carbon (Reliance Pencil),* March p.186
printer, continuous, (American Photocopy),* Oct. p.180
printing-developing machine (Charles Bruning),* June p.166
profilometer tracer (Physicists Research),* Dec. p.172
rough-finish measuring head (Brush Development),* Dec. p.170
slide rule of magnesium (Pickett & Eckel),* Dec. p.170
slide rule, pocket (Charles Bruning),* Jan. p.186
stroboscope (Communications Measurements),* March p.186
tape dispenser (Bauer & Black),* March p.186
visions of engineer, broadening of, Jan. p.101

Engines:
aircraft, forecasting of, April p.103
aircraft, materials for, Oct. p.111
change of, on bombers, aided by mount,* Jan. p.106
combustion, lubricant for (Carbide & Carbon),* Sept. p.166
controls for, combined (Scanning),* July p.108
controls of, simplified by water-brake (Symposium), April p.170
control utilizes variable V-belt drive,* April p.156
diesel, four-stroke cycle (Joshua Hendy), Oct. p.158
diesel has oil pan of Rigidized metal (Applications),* Dec. p.161
dual-fuel control on (Scanning),* May p.105
hour meter for (John W. Hobbs),* March p.184
internal combustion, connecting rod on (Patents),* Dec. p.176
internal-combustion, use alcohol as fuel,* Oct. p.98
jet-propulsion, design of,* Jan. p.158
parts, factors affecting chafing of (Abstracts),* May p.166
parts for, chafing reduced in,* Jan. p.112
rocket, analysis of, Dec. p.130
turbo-jet, for driving propellers (Abstracts),* Nov. p.164

Equalizer, hydraulic flow (Bendix Aviation),* Nov. p.166
Exchanger, heat (Bird-White),* Nov. p.174
Exhaust gases utilized for turbosupercharger,* Nov. p.106
Extruder, laboratory, for plastics. (Production Machine), July p.142

F

Fabric, airplane, finish for (Sherwin-Williams),* Feb. p.188
Failure in heavy-duty bearings, causes of, July p.115
Fan motor, lightweight (Bogue Electric),* Oct. p.178
Fanweld, nonferrous hard-facing metal (Fansteel),* June p.164

Fastenings (*see also Nuts, Bolts, Washers, Pins etc.*):
blind, brass (B. F. Goodrich),* Jan. p.184
blind studs, securing of, eliminates vibration,* Feb. p.170
box cover (Tinnerman),* Dec. p.168
effect of vibration on, March p.141
lock nut, quick (Adel Precision),* March p.178
mechanism, assembles washer to bolt (Patents),* Dec. p.174
one-piece, spring-lock (Simmons Machine),* June p.162
rivets, plastic blind (Victory Mfg.),* March p.184
Rivnut, in steel (B. F Goodrich),* Nov. p.174
self-locking, sheet-metal (Adel Precision),* July p.158
speed nut cover plates (Tinnerman),* Jan. p.180
splined-type (B. F. Goodrich),* June p.160

Fatigue life, cumulative damage effects, Dec. p.111
Fatigue test data, applying in design, Jan. p.143
Fatigue testing machine (Sonntag), Jan. p.154
Felts, wool, standard SAE grades (Work Sheet), April p.163
Ferrous castings, scope widened by improved processes, June p.135
Fiber, phenol, fabric-base (Taylor Fibre),* Feb. p.192
Fiber-molding process for insulation (Scanning), Nov. p.109
Film developing machine employs differential drive, Dec. p.120
Film processor illustrated (Houston Corp.), July p.143
Filters, tubular, applications of (Scanning),* June p.109
Finish, journal, for bearings (Viewpoints),* April p.167

Finishes:
for airplane fabric (Sherwin-Williams),* Feb. p.188
for iron and steel, (Du-Lite Chemical),* July p.164
measuring head for rough (Brush Development),* Dec. p.170
rust preventive (Witco Chemical Co.),* Sept. p.168
wrinkle, for fabric and felt (New Wrinkle),* Oct. p.174

Fire power control on B-29, Jan. p.113

Fittings:
grease, standard (Lincoln Engineering),* Sept. p.164
hydraulic tube, synthetic rubber seals in,* Feb. p.141
vent-drain, static, molded (Scanning),* April p.158

Flange for hose, detachable (Packless Metal),* May p.160
Flasher-interrupter (Electronic Testing Labs.),* Oct. p.176
Flexible shafts, power drive applications of, May p.115
Flotofoam, plastic insulation material (U. S. Rubber),* Nov. p.170
Follow-up mechanisms in tank turret, Sept. p.131
Force and shrink fits (Data Sheet), June p.145
Forging machine, proportions of link end in (Viewpoints),* Jan. p.170
Forgings replace castings, comments on (Viewpoints),* Sept. p.159
Forming machine tucks flange metal, Dec. p.101
Forticel thermoplastic (Celanese Plastics),* Dec. p.164
Frames, thrust on, obviated by balanced linkage, July p.117
Freezer, home (General Electric), illustrated,* Nov. p.154
Fuel mixture, controlled by bellows assembly, June p.128
Fuse panels, electrical (Littelfuse Inc.),* Feb. p.186

*Denotes short articles of less than one page.

G

Gage, stability, eliminates loading errors,* Feb. p.139
Gage, stiffness (Taber Instrument), illustrated, Oct. p.159
Gas turbine, materials for, Oct. p.119
Gas turbines, efficiency of, increased,* (Patents), Jan. p.174
Gases, engine exhaust, operate turbosupercharger,* Nov. p.106

Gaskets:
application of, in design, March p.151
chromate, flame resistant (Sherwin-Williams),* May p.160
material for (Los Angeles Standard Rubber),* May p.160
radio shielding sealing (B. F. Gladding),* July p.160
sealer, nonflammable (Summit Paint & Varnish),* Oct. p.176
silicone rubber, on B-29 turbosuperchargers,* March p.130

Gear checker, internal (National Broach), Jan. p.157
Gear cutter head produces 60-100 gears per hour,* Jan. p.103
Gear, landing, factors in design of, May p.131
Gear tooth oil capacity, load capacity of, July p.126
Gear-type hydraulic pump (Pesco Products),* Nov. p.168
Gear, Victory ship steering, hydraulics in,* March p.164

Gears:
bevel, in lightweight design, Jan. p.147
checker, internal (National Broach) Jan. p.157
device assures correct tooth engagement (Patents),* Oct. p.162
engage without clash (Patents),* Jan. p.172
gear-pin sizes, charts aid in specifying (Data Sheet), Dec. p.151
magnetic reversible, drive (Patents),* Nov. p.163
new data found (Viewpoints), Oct. p.160
oil film between gear tooth surfaces, load capacity of, July p.126
planetary, self-aligning (Patent),* Jan. p.174
worm, efficiency of (Patents),* Oct. p.162

Gearmotor, lightweight (Jack & Heintz),* Dec. p.166
Gearshift, selective speed (Lima Electric Motor),* March p.180
Generator, designing against vibration in (Viewpoints),* July p.154
Generators, drag cup induction (Electric Indicator),* Jan. p.176

Glass:
acid-resistant (American Optical),* Feb. p.130
bonded to Kovar alloys (Applications),* July p.144
cellular, for insulation (Pittsburgh Corning),* Dec. p.166
fusing of, to steel (Scanning) Nov. p.110
special design problems in, Oct. p.137

Governor insures smooth control (Patents),* Sept. p.170
Graphite, carbon, parts of, Oct. p.153
Graphotype embossing machine, materials changes in, Dec. p.127
Grid patterns for studying strain analysis (Scanning) Nov. p.110
Grinder, centerless thread (Landis), July p.140
Grinder, cemented-carbide bearings in (Scanning), Nov. p.107

Grinding, centerless:
accurate threads (Applications),* Dec. p.161
basic principles of, Feb. p.157
of screw threads,* April p.158

Grommets, blind plastic (Victory Mfg.),* July p.160
Guide, slot lettering (Dolgorukov),* June p.166
Gum-wrapping machine, relays in (Applications),* Dec. p.161
Gun sprays two colors (Scanning), Nov. p.109
Guns, machine, pneumatic charger clears jamming of,* Jan. p.104

H

Hardening and tempering, simultaneous, March p.157
Hardening, induction, machine for long bars (Applications),* July p.144
Hard-facing metal, nonferrous (Fansteel Metallurgical),* June p.164
Heat exchanger (Bird-White),* Nov. p.174
Heat transfer rate, effect of material on (Data Sheet), Oct. p.163
Heater, 50-KW electronic (General Electric), March p.161
Heater, electronic, induction (Allis-Chalmers), Sept. p.147
Heaters, electric, applying to machines, March p.137
Heaters in aerial cameras (Symposium), April p.117
Heating by ultra short wave (Scanning),* Dec. p.107
Heating, dielectric, where it may be applied,* March p.146
Heating units (Modine Mfg.),* March p.184
Helium used to inflate large airplane tires,* Sept. p.100
Hoist mechanism, boom (Patent),* Feb. p.179
Honing liquid, for propellers, etc.,* Nov. p.98

Hose (*see also Tubing*):
clamps for (Punch-Lock Co.),* Jan. p.184
clamps for, stainless steel (Aircraft Standard Parts),* Feb. p.184
detachable flange for (Packless Metal),* May p.160
flexible stainless (Carpenter Steel),* Nov. p.174
flexible ventilating (American Ventilating Hose),* Nov. p.170
for oil and coolant lines (Goodyear),* April p.182
metallic, flexible, stainless steel (Chicago Metal Hose),* Feb. p.192
synthetic rubber (U. S. Rubber Co.),* Sept. p.168

Housing for aircraft controls (General Electric),* Jan. p.184

Hydraulics (*see also Valves, Pumps, etc.*):
auxiliary and electric, comparing of, June p.101
boosters, utilization of, in press, May p.134
brake system, master cylinder in, (Patent),* Feb. p.180
component in actuator (Patents),* Dec. p.174
constant-ratio steering mechanism (Scanning), Sept. p.112
cylinders for 1500 pound pressure (Miller Motor),* Dec. p.168
cylinder has safety lock (Patent),* July p.170

cylinders for processing industries (Logansport),° Dec. p.164
drive in M-3 turrets, March p.123
flow equalizer (Bendix Aviation),° Nov. p.166
fittings, tube, synthetic rubber seal in,° Feb. p.141
in Victory ship steering gear,° March p.164
multipurpose press (Denison) Jan. p.156
pump, foot (Lyon-Raymond),° April p.182
pump, gear-type (Pesco Products),° Nov. p.168
pump, (Pesco Products),° Sept. p.162
selecting materials and parts for systems (Data Sheet), July p.145
shock cushioned by valve (Patents),° June p.156
switch for, high-pressure (Cook Electric),° June p.158
transmission facilitates feed control (Symposium), April p.115
units for systems (Bendix Aviation),° July p.156
valve control combines essential parts (Patent),° May p.150
valve, electric actuated, (Bendix Aviation), Sept. p.162
valve, relief (Merit Engineering),° Oct. p.178
valve, selector (Bendix Aviation),° April p.180
variable-speed drives, selecting of, May p.121
Humidity in aircraft, combatting (Abstracts),° July p.174

I

Idler damps chain vibrations (Patents),° June p.156
Indexing table (Patents),° Nov. p.163
Indicator, electric speed (Reliance Electric),° March p.182
Induction coils heat internal element on electron tubes,° Jan. p.106
Induction hardening machine for long bars (Applications),° July p.144
Induction heater, electronic (Allis Chalmers), Sept. p.147
Instruments, hermetically sealed (Hickok Electrical),° June p.158
Instruments, black lights for (Sylvania Electric),° July p.162
Insulation:
board Durok (Rogers Corp.),° Sept. p.162
cellular glass (Pittsburgh Corning),° Dec. p.166
ceramic, of zircon porcelain type,° Oct. p.98
electrical, causes of delayed failure (Abstracts),° June p.154
varnish, silicone (Dow Corning),° Nov. p.166
Insulator life improved by plastic (Applications),° May p.140
Interchangeability, tolerances for, can be held (Viewpoints),° May p.152
Interlocks, mechanical for rheostats (Scanning),° June p.109
Intermittent manual drive (Symposium),° April p.116
Interrupter, flasher (Electronic Testing Labs.) ° Oct. p.176
Invention, group, must be upheld, Feb. p.148
Inventions (*see also Patents*):
Iron alloy bonds to glass (Applications),° July p.144
Iron, standard malleable (Work Sheet), June p.149
Ironer, rotary (General Electric), illustrated,° Nov. p.153

J, K

Jeep:
developing power plant for (Abstract),° Jan. p.198
selecting materials for, Part I—Oct. p.141; Part II—Nov. p.111
Jet erosion in machines for stripping barks (Scanning), Sept. p.110
Jet-propulsion engines simplify design,° Jan. p.158
Jet propulsion for transports (Abstracts),° Nov. p.164
Jewels reduce friction and wear, Oct. p.145
Jig, double-acting lock on (Scanning),° May p.106
Joints, flexible (Flexo Supply Co.),° Sept. p.164
Joints, universal, high-speed (Gear Grinding),° June p.162
Kilovoltmeter, portable (Shallcross Mfg.),° Dec. p.172
Kovar alloy bonds to glass (Applications),° July p.144

L

Labels pre-cut masking stickers (Avery Adhesives),° Feb. p.192
Lamps (*see also Lighting*):
black light (Sylvania Electric),° July p.162
filament, high-impact,° Sept. p.100
fluorescent, low-brightness (General Electric),° Dec. p.172
glow, miniature fluorescent,° Oct. p.98
incandescent (Sylvania Electric),° Dec. p.170
Landing gear on C-46, tolerance for interchangeability on, Jan. p.117
Landing gears, factors in design of, May p.131
Lathe, profile turning, utilizes cam mechanism (Scanning),° July p.108
Lettering guide, slot (Dolgorukov Mfg.),° June p.166
Linkage, balanced, obviates thrust on frame, July p.117
Link end, figuring proportions of, in forging machines (Viewpoints),° Jan. p.170
Liquid control, electronic (Photoswitch),° July p.162
Liquid-level control (Manning, Maxwell & Moore),° Feb. p.190
Light measured by timer in X-rays, Jan. p.103
Lighting (*see also Lamps*):
improved, for better work, Feb. p.142
Load capacity of gear tooth oil film, July p.126
Loader, cement, torque-limit control on, June p.129
Lock control, tension, push-pull (Arens Controls),° Sept. p.160
Lock nut, anchor type (Kaynar),° Dec. p.166
Locomotive, driven by steam turbines, April p.141
Logs stripped by machines by jet erosion (Scanning), Sept. p.110
Longitude and latitude computing device on Superfortress,° March p.120
Loop control, accurate, insured by electronics, April p.143
Losses, power, in journal bearings, predicting, May p.125
Lubrication:
connecting rod for internal combustion engines (Patents),° Dec. p.176
hose for oil and coolant (Goodyear),° April p.182
in gear tooth, load capacity of oil film, July p.126
lubricant for chain conveyor (Turco Products),° Nov. p.176
oiler, disk, for high-speed journals (Patents),° April p.169
oiler, adjustable gravity feed (Oil-Rite),° June p.158
Lumber machine utilizes jet erosion (Scanning), Sept. p.110

M

M-3 Turret, designing drive for, March p.123
M-24 light tank, information on,° March p.176
Machine tools, variety of colors on,° March p.120
Machining, stress relief of weldments for stability in, May p.113
Machining, turret lathe, Nov. p.117
Magnesium alloys in aircraft,° Feb. p.130
Magnesium used in slide rule (Pickett & Eckel),° Dec. p.170
Malleable irons, standard, (Work Sheet), June p.149
Manganese alloy cast steels (Work Sheet), Nov. p.157
Manganese alloy, hardenable (Driver-Harris),° Nov. p.168
Manual drive, intermittent, simplicity in (Symposium), April p.116
Map-making machine, Odograph, July, p.101
Marker, electric (Ideal Commutator Dresser),° Dec. p.149
Material for seals (Los Angeles Standard Rubber),° May p.160
Materials Work Sheet:
aluminum-base casting alloys, July p.149
aluminum bronzes, May p.145
carbon cast steels, ASTM Spec. Nos., Sept. p.153
felts, wool, standard SAE grades, April p.163
irons, malleable, standard, June p.149
manganese alloy cast steels, Nov. p.157
nickel alloy steels (cast), Oct. p.167
silicon bronzes, Jan. p.163
steels cast, chromium and molybdenum alloy types, Dec. p.155
steels stainless, Feb. p.175
synthetic rubbers, March p.169
Materials (*see also specific type*):
changes, consideration of, in design, Dec. p.127
effect of, on heat transfer rate (Data Sheet), Oct. p.163
for aircraft engine, Oct. p.111
for gas turbine, Oct. p.119
for hydraulic systems, selecting of (Data Sheet), July p.145
for the jeep, Part I—Oct. p.141; Part II—Nov. p.111
nonferrous, what's new in, Oct. p.129
selecting of, for corrosion resistance (Data Sheet), March p.165
Measuring:
head for rough finish (Brush Development),° Dec. p.170
inspection instruments (Ray Control),° Dec. p.172
movement, by electrical micrometer (Scanning), Sept. p.111
unit, thrust, uses flexible diaphragms (Scanning), Nov. p.107
Meat chopper (Toledo Scale), illustrated,° Dec. p.149
Mechanical control, remote, (M. L. Bayard),° May p.156
Metal, nonferrous, Fanweld (Fansteel Metallurgical),° June p.164
Metals, nonferrous, what's new in, Oct. p.129
Meter, engine hour (John W. Hobbs),° March p.184
Micrometer, electrical, measures movement (Scanning), Sept. p.111
Millers:
contour, for ship propellers, Sept. p.103
cylinder head fin (Sundstrand Machine), March p.163
vertical, hydraulic (Symposium), April p.115
Miniature motors, to fit requirements, May p.107
Mining machine, coal, German,° Nov. p.98
Mixer, concrete (T. L. Smith), illustrated, Dec. p.148
Moisture in aircraft, combatting (Abstracts),° July p.174
Molding, injection, of fittings,° April p.158
Molybdenum and chromium cast steels (Work Sheet), Dec. p.155
Motion analysis, high-speed, x-rays for, March p.129
Motors:
air, small powerful (Bellows Co.),° June p.160
appliance, small (Small Motors),° June p.162
capacitor-start induction (Small Motors),° Oct. p.174
d-c, constant speed (Amglo Corp.),° Nov. p.170
electric in food processing (Topics),° June p.98
electric or hydraulic for auxiliary power, June p.101
explosionproof, Types K and KG (General Electric),° July p.156
explosionproof, electric (Warren Telechron),° Feb. p.184
explosionproof, for hazardous duty (Century Electric),° Feb. p.186
fan, lightweight (Bogue Electric),° Oct. p.178
400 cycle auxiliary, for aircraft, April p.125
gear, lightweight (Jack & Heintz),° Dec. p.166
gearshift, selective speed (Lima Electric),° March p.180
miniature, powerful (Patents),° June p.157
miniature, to fit requirements, May p.107
motor-pump uses no direct coupling (Patents),° April p.168
protected-type, drip-proof (Crocker-Wheeler),° March p.178
timing and control (Warren Telechron),° April p.178
special purpose, to meet unique requirements, Sept. p.121
vertical dripproof (Crocker-Wheeler),° Dec. p.165

°Denotes short articles of less than one page.

Mountings:
cowl, insulated (Bushings Inc.),* July p.160
cowl, synthetic (Bushings Inc.),* Nov. p.176
vibration, light-duty (Hamilton Kent),* Nov. p.166
vibration (Hamilton Kent),* Jan. p.182

N, O

Nickel alloy steels, cast (Work Sheet), Oct. p.167
Nonferrous metal, Fanweld (Fansteel Metallurgical),* June p.164
Nonferrous metals, what's new in? Oct. p.129

Nuts:
cover plates for (Tinnerman),* Jan. p.180
dual-purpose, safety (Simmons Machine Tool),* Feb. p.190
lock, anchor type (Kaynar),* Dec. p.166
quick-fastening lock (Adel Precision),* March p.178

Odograph plots maps automatically, July, p.101
Oiler, adjustable gravity feed (Oil-Rite),* June p.158
Oiler, disk, for high-speed journals (Patents),* April p.169
Oilite cored and solid bars (Chrysler Corp.),* March p.180
Overload protection in actuator (Applications),* June p.144
Overload protection, torque, controls for, June p.129
Oxyacetylene pressure welding process (Abstract),* Jan. p.198

P

Packings:
flexible metallic (Johns-Manville),* Jan. p.182

Paint, high heat-resisting (Quigley),* Jan. p.182
Paint, spraying of two colors at one time (Scanning), Nov. p.109

Panels:
electrical fuse (Littelfuse Inc.),* Feb. p.186

Paper cutters, improving design of, July p.127
Paper-folding machine, plastic disks in,* March p.164
Paper, photographic (Peerless Photo),* March p.186
Paper, wax, drying of, by trapped air,* April p.156

Patents:
actuator, hydraulic, patented,* Dec. p.174
boom hoist, self-holding,* Feb. p.179
cam roller, adjustable,* May p.150
connecting rod lubricates combustion engine,* Dec. p.176
coupling adjusts cam during operations,* Sept. p.170
developments not inventions (Viewpoints),* April p.167
differential, self-locking,* Dec. p.176
electronic vulcanization of rubber,* March p.120
gear drive, magnetic reversible,* Nov. p.163
gears, correct tooth engagement in,* Oct. p.162
gears, worm, efficiency of,* Oct. p.162
governor insures smooth control,* Sept. p.170
group invention must be upheld, Feb. p.148
how to protect machine improvements, Nov. p.133
hydraulic cylinder has safety lock,* July p.170
idler damps chain vibrations,* June p.156
indexing table,* Nov. p.163
mechanism assembling washer to bolt,* Dec. p.174
motor, miniature, is powerful,* June p.157
motor-pump uses no direct coupling,* April p.169
oiler, disk, for high-speed journals,* April p.169
ratchet and pawl mechanism,* Dec. p.174
seal, rotary, compact,* June p.157
spindle with internal feed screw,* Sept. p.172
timer for controlling washing cycles,* Sept. p.172
transmission combines power,* July p.170
valve cushions hydraulic shock,* June p.156
valve, hydraulic, combines essential controls,* May p.150

Pencil, heavy-pressure (Reliance Pencil),* Oct. p.180
Pencils, multiple carbon (Reliance Pencil),* March p.186
Phenolastic fiber, fabric-base (Taylor Fibre),* Feb. p.192
Phosphate finish for iron and steel (Du-Lite Chemical),* July p.164
Photocopy machine, daylight (Haloid Co.), March p.162
Photoelectric scanner uses plastic cylinder records (Scanning),* July, p.106
Photography, high-speed, in redesign, Feb. p.133
Pillow block available (Dodge Mfg.),* March p.178
Pinion, self-aligning, eliminates backlash (Patent),* Jan. p.174
Pins, self-anchoring, vibrationproof (Driv-Lok Pin),* June p.164
Planetary reducer aids in compact design, April p.135
Planetary transmission in unit (Scanning), Dec. p.109

Plastics:
adhesive, synthetic (Cordo Chemical),* Oct. p.178
blind rivet (Victory Mfg.),* March p.184
Compar disks in paper-folding machine,* March p.164
cylinder records in photoelectric scanner (Scanning),* July p.106
effect of temperature on, Oct. p.115
Flotofoam insulation (U. S. Rubber),* Nov. p.170
Forticel, thermoplastic (Celanese Plastics),* Dec. p.164
grommets, blind (Victory Mfg.),* July p.160
insulator life improved by (Applications),* May p.140
laboratory extruder for, (Production Machine), July p.142
liquid, Vibron resins (U. S. Rubber),* June p.158
molded, general properties and uses of (Data Sheet), Feb. p.171
nonflammable thermosetting (B. F. Goodrich),* Oct. p.174
plywood panels, super-sized (Haskelite),* March p.184
resin, HM-122, heat-resistant (du Pont),* Jan. p.178
seals, countersunk, pipe (American Molded),* Sept. p.166
Styron 411 polystyrene (Dow Chemical),* Dec. p.168
tape, thermoplastic, transparent (Irvington),* July p.162
terminal blocks of (Paul Henry),* June p.164

Plastilock bonding adhesive (B. F. Goodrich),* May p.158
Plates, cover, speed nut (Tinnerman),* Jan. p.180
Plating for aluminum (Enthone Co.),* June p.164
Plating of aluminum with silver (Colonial Alloys),* May p.160

Plywood:
super-sized panels (Haskelite),* March p.184

Pneumatics:
air cylinder, single line, control, April p.134
charger clears jammed machine guns,* Jan. p.104
cylinders, double-acting (Gerotor May),* July p.160
cylinders, 200 lb. pressure (Miller Motor),* Dec. p.168
motor, small powerful (Bellows),* June p.160
pump, high-vacuum (Marco Co.),* March p.186
pumps, motor-driven (Eclipse-Pioneer),* Sept. p.160
regulator (Moore Products),* Feb. p.190
solenoid selector (Adel Precision),* June p.164
trapped air dries wax paper sheet,* April p.156
valve, air-operated (Hills-McCanna),* Nov. p.170

Potentiometer controller (Bristol Co.),* Oct. p.174
Potentiometer, nonlinear (Fairchild Camera),* Oct. p.176
Powder-metal engine bearings (Moraine Products),* Nov. p.172
Powder-metal machine parts, Oct. p.133
Power losses in journal bearings, predicting, May p.125
Powerplant in jeep, development of (Abstracts),* Jan. p.198
Press, hydraulic (Denison) illustrated, Jan. p.156
Presses, hydraulic boosters in, May p.134
Pressure transmission on potentiometer (Trimount),* Nov. p.166
Printer, continuous (American Photocopy),* Oct. p.180
Printing-developing machine (Charles Bruning),* June p.166
Printing machine (Hunter Electro-Copyist),* Jan. p.186

Processes:
automatic screw machining, Sept. p.135
chemical, for aluminum alloys (Enthone Co.),* Dec. p.170
die forging, utilization of, Oct. p.147
fiber-molding, for insulation (Scanning), Nov. p.109
stamping, in production, Dec. p.131
turret lathe machining, Nov. p.117

Processing machine, electronic loop control in, April p.143
Processor, film, illustrated (Houston Corp.), July p.143

Production:
automatic screw machining, Sept. p.135
broaching, July p.109
die forging, Oct. p.147
jig, double-acting lock on (Scanning),* May p.106
limitations of (Abstracts),* Dec. p.162
stamping, in design, Dec. p.131
quality control, improving design by, July p.135
turret lathe machining, Nov. p.117

Profilometer tracer (Physicists Research),* Dec. p.172
Projection welding for short runs, Nov. p.101
Projector, slide (Bell & Howell), illustrated,* Nov. p.152
Propeller blade fairing of rubber,* Feb. p.170
Propulsion, aircraft, forecasting of, April p.103
Pulleys, variable-speed, temperature-responsive (Scanning),* June p.109

Pump:
aircraft, hydraulic (Pesco Products),* Sept. p.162
centrifugal, high-volume (Gray-Mills),* July p.158
coolant, centrifugal (Logansport),* April p.176
discharge, vertical (Claude B. Schneible),* May p.156
foot, hydraulic (Lyon-Raymond),* April p.182
gear type, hydraulic (Pesco Products),* Nov. p.168
heat, possibilities of,* March p.136
heavy-duty, gathering (Blackmer),* March p.182
high-vacuum, all-purpose (Marco Co.),* March p.186
injection for Superfortresses (Scanning), Sept. p.109
motor-driven, dry-air (Eclipse-Pioneer),* Sept. p.160
motor, has no direct coupling (Patents),* April p.169
self-priming, positive displacement (Bump Pump),* April p.180

Pushbuttons, oiltight for group mounting (Square D),* May p.154
Pushbuttons, snap-action, small (Grayhill),* April p.178

Q, R

Quality control, improving design by, July p.135

Radar:
altimeters for, developed,* Sept. p.100
design discussion of, Nov. p.123
forecasts weather,* Oct. p.98

Radiations by electronic accelerator (Scanning),* Dec. p.108
Radium for illuminating dials,* Oct. p.98
Range, electric (Edison General Electric),* Nov. p.154
Ratchet and pawl mechanism (Patents),* Dec. p.174
Receptacle, battery, 3-contact (Cannon Electric),* Oct. p.176
Recoil starter on 2-cycle engine (Applications),* Sept. p.148
Reconversion, planning for, Jan. p.134
Recorder, automatic telegraph (Western Union), July p.141

*Denotes short articles of less than one page.

ectifiers utilize aluminmum (Radio Receptor Co.),* Dec. p.165
educer, planetary, aids in compact design, April p.135
educer, speed, worm-gear (De-Laval),* Jan. 178
egulator for air pressure (Moore Products),* Feb. p.190

elays:
a-c and d-c, magnetic (R-B-M Mfg.),* Dec. p.166
hermetically-sealed, activated by electromagnet,* Jan. p.105
interlock, latch (Struthers-Dunn),* April p.180
latching, small (Cook Electric),* Nov. p.172
lightweight, midget (Guardian Electric),* Feb. p.186
mercury plunger (H-B Electric),* Feb. p.188
midget, hermetically sealed (Betts & Betts),* Feb. p.188
on gum wrapping machine (Applications),* Dec. p.161
plate circuit (Potter & Brumfield), Nov. p.174
plug-in, encased (Ward Leonard),* April p.182
reverse current (R-B-M Mfg.),* July p.164
rotary, compact (Price Brothers),* May p.154
snap-action, sensitive (Struthers-Dunn),* March p.178
time delay, d.c. (R. W. Cramer),* June p.160
vacuum-switch keying (Struthers-Dunn),* May p.158

emote controls, precision (American Type Founders),* March p.180
emote mechanical control units (M. L. Bayard),* May p.156
esearch—a state of mind (Abstract),* Feb. p.194
esearch, supports on (Viewpoints),* March p.174
esin, HM-122, heat-resistant (du Pont),* Jan. p.178
esistance welding for short runs, Nov. p.101
esistors, hermetically sealed (Daven Co.),* Nov. p.170
esistors, precision, series 82 and 83 (Ohmite),* July p.158
heostats, aircraft, power (Ohmite),* Jan. p.178
heostats, carbon pile (Stackpole),* Jan. p.180
ings, rubber driving, in spindle on indexing turret,* Jan. p.104
iveting machines set 3000 rivets per hour,* Sept. p.100

ivets:
blind fastener (B. F. Goodrich),* Jan. p.184
blind plastic (Victory Mfg Co.),* March p.184
Rivnut, in steel (B. F. Goodrich),* Nov. p.174
Rivnut, splined-type (B. F. Goodrich),* June p.160

ocket engines, analysis of, Dec. p.130
od, welding, hard-surfacing (American Manganese),* Sept. p.162
oller, thread, design of, May p.99
oller, thread (The National Acme), Dec. p.150

ubber:
adhesive, bonding, Plastilock (B. F. Goodrich),* May p.158
coupling, for aviation (B. F. Goodrich),* Feb. p.188
effects of heat on (Abstracts),* Jan. p.196
fuel-resistant (Los Angeles Standard),* Jan. p.186
gaskets of silicone rubber,* March p.130
hose, synthetic (U. S. Rubber),* Sept. p.168
machine parts of, Dec. p.116
molded parts of, factors in design, July p.121
molded silicone, parts of (Connecticut Hard Rubber),* Oct. p.176
propeller blade fairing of, Feb. p.170
Silicone, Silastic (Dow Corning), Oct. p.180
synthetic, adhesives (B. F. Goodrich),* March p.182
synthetic, and collet (Scanning),* Dec. p.107
synthetic, devices of, for protection (Applications),* June p.144
synthetic, properties and characteristics (Work Sheet), March p.169

ule, slide, of magnesium (Pickett & Eckel),* Dec. p.170
ust preventive coating, (Witco Chemical Co.),* Sept. p.168

S

canner, photoelectric, uses plastic cylinder records (Scanning),* July p.106
crew machining, automatic, Sept. p.135
crews, socket, ground thread (Parker-Kalon),* July p.157
ealing diesel against high pressure (Abstracts),* Jan. p.196
ealer, gasket, nonflammable (Summit Paint),* Oct. p.176

eals:
gasket, radio shielding (B. F. Gladding),* July p.160
material for (Los Angeles Standard),* May p.160
plastic pipe, counter sunk (American Molded),* Sept. p.166
rotary, tire pressure control for (Scanning), Oct. p.109
rotary, compact (Patents),* June p.157
rotating, developed (Cook Electric),* June p.160
synthetic rubber, in hydraulic tube fitting,* Feb. p.141

elector for automatic control (Federal Telephone),* March p.182
elector, solenoid, pneumatic (Adel Precision),* June p.164
equence operations, basic controls for, April p.109
ervomechanisms, how they work, April p.119
haft design facilitated by charts (Data Sheet), Sept. p.149
haft, stepped, serves as plunger in jib crane,* Feb. p.140
hafts, flexible, power drive applications of, May p.115
heaves, V-belt, Taperlock (Dodge Mfg.),* Sept. p.161
hell centering and cutoff machine (Cross Co.), March p.160
hell notching machine, linkage obviates thrust on frame of, July p.117
hips of the Navy, illustrated and described, June p.142
hooting Star (Lockheed fighter) illustrated, Sept. p.146
hrink and force fits (Data Sheet), June p.145
ilastic silicone rubbers (Dow Corning),* Oct. p.180
ilicon bronzes (Work Sheet), Jan. p.163
ilicone rubbers, Silastic (Dow Corning),* Oct. p.180
ilicone rubber parts, molded (Connecticut Hard Rubber),* Oct. p.176
ilicones, development of (Abstracts),* May p.166
ilver plating aluminum (Colonial Alloys),* May p.160
ilver utilized as bearing material (Abstracts),* Nov. p.165
lide rule, pocket (Charles Bruning),* Jan. p.186
lide projector (Bell & Howell),* Nov. p.152
olenoid contactor, direct-current (R-B-M Mfg.),* Sept. p.164
olenoid-controlled valve (Numatics),* Sept. p.168
olenoid selector, pneumatic (Adel Precision),* June p.164
pectroscope, infrared, for analyzing chemicals (Scanning), Nov. p.108
pectrometer, X-ray (North American Phillips), Feb. p.168
peed reducer, worm-gear (De Laval),* Jan. p.178
pindle has internal feed screw (Patents),* Sept. p.172
pindle on indexing turret uses rubber driving rings,* Jan. p.104
pindles, barbed, for picking, in cotton picker, June p.139
praying two colors with one gun (Scanning), Nov. p.109
prings, effect of cold setting on, Jan. p.107
prings, helical, working stresses for, July p.129
tability gage eliminates loading errors,* Feb. p.139
tainless steels, AISI types 430 and 430F (Work Sheet), Feb. p.175
tamping process, discussion of, Dec. p.131

tandardization:
automobile industry, by engineers (Abstracts),* June p.154
conference, international, Nov. p.146
standardization and designers (Abstracts),* Dec. p.162

tarter, recoil, on 2-cycle engine (Applications),* Sept. p.148
tatistical control, improving design by, July p.135
teel-glass fusing (Scanning),* Nov. p.110

teels:
alloy, one-coat enameled (Inland Steel),* Feb. p.186
cast chromium and molybdenum types (Work Sheet), Dec. p.155
composite, for knives and blades (Jessop Steel),* Dec. p.170
high-tensile, electrodes for (General Electric),* Sept. p.168
high-tensile strength, (Horace T. Potts Co.),* Sept. p.166
manganese alloy cast (Work Sheet), Nov. p.157
nickel alloy, cast (Work Sheet), Oct. p.167
selecting of, Oct. p.101
stainless, flexible hose (Carpenter Steel),* Nov. p.174
stainless, flexible tubing (Chicago Metal Hose),* Feb.p.192
stainless, hose clamp (Aircraft Standard Parts),* Feb. p.184
stainless, (Work Sheet), Feb. p.175
tubing, high nickel-bearing (Babcock & Wilcox Tube),* Dec. p.165

teering, constant-ratio hydraulics (Scanning), Sept. p. 112
teering mechanism in trucks, increased loading by,* Feb. p.141
teering Victory ships by hydraulics,* March p.164
tickers, masking, pre-cut (Avery Adhesives),* Feb. p.192
tock, nondeforming flat ground (Simonds Worden White).* Nov. p.176
train analysis, grid patterns for studying of (Scanning), Nov. p.110
trainer, magnetic (Winslow Engineering),* Nov. p.168
trainers, oil and coolant (George Butler),* May p.160

tresses:
fatigue test data, applying in design, Jan. p.143
how to measure, in machines, June p. 123
in helical springs, July p. 129
measurements and design in crankshaft, Nov. p.127
relief of weldments for machining stability, May p.113

trips, connector, solderless (Aircraft-Marine).* July p.162
trips, solderless connector (Aircraft Marine),* Sept. p.161
troboscope (Communications Measurements),* March p.186
tructures, aluminum, offered (Lindsay & Lindsay),* Feb. p.192
truc-Lok prefabricated assemblies (Lindsay & Lindsay),* May p.158
tructural values, comparing dollar, (Abstracts),* June p.154
tuds, blind, securing of,* Feb. p.170

witches:
cam-adjusted, thermostatic (George Ulanet).* July p.164
environmentproof (Robert Hetherington),* July p.157
flat foot (General Control),* Feb.p.190
foot, for light duty (General Control),* Dec. p.170
heavy-duty lever (Donald P. Mossman),* July p.156
heavy-duty, for panels (Donald P. Mossman),* April p.182
heavy-duty, turn (Donald P. Mossman),* Sept. p.161
high pressure for hydraulic systems (Cook Electric),* June p.158
lever, extra-heavy-duty (Donald P. Mossman),* Dec. p.164
motored, time (Paragon Electric Co.),* Sept. p.162
plug-in, renewable (Robert Hetherington),* Dec. p.168

T

Tangent bender tucks flange metal, Dec. p.101
Tank, light, M-24, information on,* March p.176
Tank turrets, electrical control in, Sept. p.131
Tanks, heavy, medium tanks (Abstracts),* Feb. p.194
Tape dispenser offered (Bauer & Black),* March p.186
Tape, transparent, thermoplastic (Irvington),* July p.162
Telegraph recorder, automatic (Western Union), July p.141
Telephones, dial, automatic ticketing of, Nov. p.147
Temperature control improved by anticipator, June p.116
Tempering and hardening, simultaneous, March p.157
Tension, controlled, in winding rods and spools,* Feb. p.170
Tension lock control, push-pull, (Arens Controls),* Sept. p.160
Terminal blocks, plastic (Paul Henry),* June p.164
Testing machine on fatigue (Sonntag) illustrated, Jan. p.154
Textile machines, electronics in (Abstracts),* Feb. p.194
Thermal shocking, by heat exchanger tubes,* Feb. p.141
Thermometers, bimetal dial (Marshalltown),* Nov. p.176

*Denotes short articles of less than one page.

Thermostat, built-in (George Ulanet),° Jan. p.182
Thermostat, Cam-Stat, (Paul Henry),° Sept. p.166
Thread roller, design of, May p.99
Thread roller (National Acme), illustrated,° Dec. p.150
Threads ground on centerless grinder (Applications),° Dec. p.161
Thyratron power-control tube (Westinghouse),° June p.160
Ticketer, automatic, makes infallible records, Nov. p.147
Timers:
electronic, sequence for flash exposures (Scanning),° June p.110
for washing cycle (Patents),° Sept. p.172
industrial, manual (Paragon Electric),° Jan. p.180
measure light in X-rays, Jan. p.103
program, for automatic control, Nov. p.137
selecting of, for automatic control, Sept. p.127; Nov. p.137
weld and sequences (General Electric),° Feb. p.184
Tires, pressure controlled by seal (Scanning), Oct. p.109
Tolerances can be held (Viewpoints),° May p.152
Tolerances, force and shrink fits (Data Sheet), June p.145
Tolerances, specifying for interchangeability, Jan. p.117
Torque-overload protection, controls for, June p.129
Torsional vibration calculated (Data Sheet), Part I—April p. 159; Part II—May p.141
Tracer, profilometer (Physicists Research),° Dec. p.172
Transfer mechanism employs differential drive, Dec. p.120
Transformers, constant voltage (Sola Electric),° Jan. p.184
Transmission (*see also Variable-Speed Transmission*)
planetary, obtains speed reduction (Scanning),° Dec. p.109
V-belt drive, variable, in engines,° April p.156
variable speed, electric, selecting of, June p.117
variable speed, hydraulic, selecting of, May p.121
variable speed, selecting of, April p.147
Transmitter, pressure (Trimount Instrument),° Nov. p.166
Trimetric drawing, its theory and technique, Feb. p.147
Tube, power control, thyratron (Westinghouse),° June p.160
Tubes:
electron, elements heated by induction coils,° Jan. p.106
heat exchanger, self-cleaning,° Feb. p.141
power, industrial (Federal Telephone & Radio),° Feb. p.186
Tubing:
flexible, stainless steel (Chicago Metal Hose),° Feb. p.192
improving design with tubular sections, June p.111
seamless, for high temperatures (Seamlex),° July p.158
steel, high nickel-bearing (Babcock & Wilcox Tube),° Dec. p.165
tool steel, in spindle sleeve bushings (Applications),° Sept. p.148
Tunnel, wind, variable-density, for aircraft (Scanning),° July p.107
Turbine, gas, materials for, Oct. p.119
Turbines:
gas, efficiency of, increased,° Jan. p.174
steam, in new locomotive, April p.141
steam, new blades for,° Feb. p.139
Turbosupercharger operates on exhaust gases,° Nov. p.106
Turret, indexing, uses rubber driving rings,° Jan.p.104
Turret lathe machining, Nov. p.117
Turrets, M-3, designing drive for, March p.123

U, V

Universal joints, high-speed (Gear Grinding),° June p.162
V-belt drive, variable, in engines,° April p.156
V-belt sheaves, Taperlock (Dodge Mfg.),° Sept. p.161
Valve rocker arm cover stamped,° March p.164
Valves:
air-operated (Hills-McCanna),° Nov. p.170
check, new type (Harman Equipment),° Nov. p.174
hydraulic, electric actuated (Bendix Aviation),° Sept. p.162
hydraulic, relief (Merit Engineering),° Oct. p.178
hydraulic shock cushioned by (Patents),° June p.156
hydraulic selector (Bendix Aviation),° April p.180
hydraulic, combines essential controls (Patents),° May p.150
reverse-cycle, brazed (Applications),° June p.144
rotary, split-sleeve (Clarke Aero-Hydraulics),° Feb. p.192
solenoid control (Numatics),° Sept. p.168
Vaporizer, electric (The Spartan Co.) illustrated,° Dec. p.149
Variable-speed transmission:
differential (Ohio Gear),° Jan. p.176
electrical, selecting of, June p.117
hydraulic, selecting of, May p.121
planetary, discussed (Patent),° Feb. p.179
power combined (Patent),° July p.170
selecting of, April p.147
Varnishes, silicone insulating (Dow Corning),° Nov. p.166
Vents with rupture diaphragms (J. A. Zurn),° Dec. p.166
Vibration:
beam, natural frequencies (Data Sheet), Jan. p.159
chain, dampened by idler (Patents),° June p.156
designing against, in generator brackets (Viewpoints),° July p.154
device for permanent recording (Applications),° July p.144
effect of, on brackets, fastenings, March p.141
mounting, light-duty (Hamilton Kent),° Nov. p.166
mounting for elimination of (Hamilton Kent),° Jan. p.182
nomograph aids solution of (Data Sheet), Nov. p.155
torsional, calculating of, higher modes (Data Sheet), May p.141
Vibrograph permanently records vibration (Applications),° July p.144
Vibron resins, liquid plastic (U. S. Rubber),° June p.158
Voltage transformers, constant (Sola Electric),° Jan. p.184

W, X

Waves, ultra-short used for heating (Scanning),° Dec. p.107
Washer, spinner type (Hurley), illustrated,° Nov. p.153
Washers, lock, double-coil spring (George K. Garrett),° May p.160
Waves, ultra-short used for heating (Scanning),° Dec. p.107
Welding:
arc, automatic, Lincolnweld (Applications),° May p.140
a-c arc electrodes (Applications),° Sept. p.148
design trends in, Jan. p.135
electrode, chrome-moly (Acros Corp.),° July p.157
electrode, shielded-arc (Lincoln Electric),° Oct. p.180
electrode, three purpose (Air Reduction),° Sept. p.166
electrodes for high tensile steels (General Electric Co.),° Sept. p.168
oxyacetylene pressure process (Abstracts),° Jan. p.198
projection, for short runs, Nov. p.101
rod, hard-surfacing (American Manganese Steel),° Sept. p.162
spot welder (Sciaky) illustrated, Jan. p.155
stress relief of weldments for machining stability, May p.113
timer, sequence (General Electric),° Feb. p.184
Wheels, air rubber-cushion (Rapids-Standard),° May p.156
Wheels, skidding, controls decelerometer (Patent),° Jan. p.172
Wind tunnel, variable-density for airplanes (Scanning),° July p.107
Winding machine, controlled tension in, for rod and spools,° Feb. p.170
Wire, composite, useful in electronic equipment,° March p.130
Worm-drive "Jitters" can be avoided, March p.131
Wrapping machine, chewing-gum, relays in (Applications),° Dec. p.16
Wrinkle finishes for fabric and felt (New Wrinkle),° Oct. p.174
X-rays for high-speed motion analysis, March p.129
X-Ray spectrometer illustrated (North American Phillips), Feb. p.168
X-Ray, timer measures light in, Jan. p.103

°Denotes short articles of less than one page.